

I claim:

1. In a video game system comprising a video game apparatus having a data storage disk reader and a first processor with a cooperating polygon-rendering coprocessor and first data memory for storing first picture data representing a player-controlled character having plural body parts with textures mapped by said coprocessor, and a separately housed independently operable portable game system having a second processor and a discrete display device and second data memory for storing second picture data representing said body parts, a method of operating said video game system comprising the steps of:
  - (a) reading a first game program from a data storage disk in said data storage disk reader;
  - (b) executing said first game program in said first processor cooperating with said coprocessor to generate said first picture data of said plural body parts moving in a simulated game world under control of a manually operated controller for display on a first display device;
  - (c) generating game control data in said first processor to specify a least one variable of at least one of said body parts of said player-controlled character;
  - (d) transmitting said game control data from said first processor through a data transmission link to said second processor;
  - (e) executing a second game program in said second processor to generate said second picture data of said plural body parts of said player-controlled character in accordance with said variable specified in said transmitted control data; and

- (f) displaying said second picture data on said discrete display device in said portable game system.
- 2 The method of claim 1, wherein said body parts are represented in said first and second picture data as bendable about at least one joint under control of a manipulatable control device.
- 3 The method of claim 1, wherein movements of said player-controlled character in said first picture data are controlled by manipulation of a control device connected to said video game apparatus.
- 4 The method of claim 1, wherein movements of said player-controlled character in said second picture data are controlled by manipulation of a control device connected to said video game apparatus.
- 5 The method of claim 1, wherein movements of said player-controlled character in said first picture data are controlled by manipulation of a control device in said portable game system.
- 6 The method of claim 1, wherein said data storage disk is an optically coded disk.

- 7 The method of claim 1, further comprising the step of authenticating said data storage disk in a secure authentication processor to determine whether said data storage disk and said first game program are authentic.
- 8 The method of claim 1, wherein said authentication processor decrypts encrypted data from said data storage disk to produce decrypted data and determines if the decrypted data has a predetermined relationship to authenticating data.
- 9 The method of claim 1, wherein said variable represents at least one from the following group: a location of said character, a direction of movement of said character, orientation of said character, a size factor, an object identifier, an operation code, spatial coordinates, data to appear on a map, word menu, picture menu, terrain identifier, texture identifier, polygon identifier, and other variables.
- 10 The method of claim 1, wherein said simulated game world is represented as a 3-dimensional space and said second picture data represents said player-controlled character moving in 3 dimensions under manual control.
- 11 The method of claim 1, wherein said second processor comprises means for rendering polygons representing said plural body parts of said player-controlled character.

- 12 The method of claim 1, wherein said discrete display device is a liquid crystal display (LCD) device.
- 13 The method of claim 1, further comprising the step of processing data in said first processor representing at least one from the following group: words, numbers, symbols, faces, maps, static pictures, picture menus, and/or other data that is transmitted by said video game system to said portable game system for generation of data for display on said discrete display device.
- 14 The method of claim 1, further comprising the step of enlarging a portion of said player-controlled character in said second picture data so as to display a portion of the character in greater detail on said discrete display device.
- 15 The method of claim 1, further comprising the steps of:
- (a) displaying a manually controllable indicator on a selected object displayed on said discrete display device;
  - (b) generating further second picture data representing said selected object moving in said game world under manual control.
- 16 The method of claim 1, further comprising the step of generating said second picture data of said body parts of said player-controlled character in a first portion of a simulated game world and later in a second portion of the

same game world in accordance with said variable specified in said transmitted game data.

- 17 The method of claim 1, further comprising the step of generating said second picture data of said body parts of said player-controlled character in a first simulated game world and later in a second simulated game world in accordance with said variable specified in said transmitted game data.
- 18 The method of claim 1, wherein said transmitting step transmits said game control data through a data transmission link that is partly wireless.

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- 19 In a video game system comprising a first game apparatus having a data storage disk reader and a first processor with a cooperating graphics coprocessor and first data memory for storing first picture data representing a first player-controlled character having first plural body parts rendered by said coprocessor, and a separately housed second game apparatus having a discrete display device and a second processor and second data memory for storing second picture data representing a second player-controlled character having second plural body parts, a method of operating said video game system comprising the steps of:
- (a) reading a first game program from a data storage disk in said data storage disk reader;
  - (b) executing said first game program in said first processor to generate said first picture data of said first plural body parts moving in a simulated game world under control of a manually operated controller for display on a first display device;
  - (c) generating game control data in said first processor to specify a least one variable of at least one of said second body parts of said second player-controlled character;
  - (d) transmitting said game control data from said first processor through a data transmission link to said second processor;
  - (e) executing a second game program in said second processor to generate said second picture data of said second plural body parts of said second player-controlled character in accordance with said variable specified in said transmitted control data; and

- (f) displaying said second picture data on said discrete display device in said second game apparatus.
- 20 The method of claim 19, wherein said data storage disk is an optically coded disk.
- 21 The method of claim 19, further comprising the step of authenticating said data storage disk in a secure authentication processor to determine whether said data storage disk and said first game program are authentic.
- 22 The method of claim 19, further comprising the step of generating said second picture data of said second body parts of said second player-controlled character in a first simulated game world and later in a second simulated game world in accordance with said variable specified in said transmitted game control data.
- 23 The method of claim 19, wherein said second processor comprises means for rendering polygons representing said plural body parts of said second player-controlled character.
- 24 The method of claim 19, wherein said first and second player-controlled characters are substantially the same character.

- 25 The method of claim 19, wherein said discrete display device is a liquid crystal display (LCD) device.
- 26 The method of claim 19, further comprising the step of enlarging a portion of said second player-controlled character in said second picture data so as to display at least a portion of the second character in greater detail on said discrete display device.
- 27 The method of claim 19, wherein said transmitting step transmits said game control data through a data transmission link that is partly wireless.



28 A video game system comprising:

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- (a) a video game apparatus having first data storage locations for storing first picture data representing plural body parts of a first player-controlled character in a simulated game world;
- (b) a disk reader in said video game apparatus for reading at least a first game program from a manually removable data storage disk;
- (c) a first processor in said video game apparatus for executing said first game program to generate said first picture data for display on a first display device and to generate game control data to specify at least one variable of at least one of said body parts of a second player-controlled character;
- (d) a polygon-rendering coprocessor in said video game apparatus cooperating with said first processor to render polygons of said plural body parts of said first player-controlled character;
- (d) a data transmission link for transmitting said game control data from said video game apparatus to a separately housed independently operable portable game system;
- (e) second data storage locations in said portable game system for storing second picture data representing plural body parts of said second player-controlled character in a simulated game world;
- (f) a discrete display device in said portable game system; and

- (g) a second processor in said portable game system for executing a second game program in accordance with said variable specified in said transmitted game control data to generate said second picture data for display on said discrete display device in said portable game system.
- 29 The game system of claim 28, wherein said data transmission link is partly wireless.
- 30 The game system of claim 28, wherein said discrete display device is a liquid crystal display (LCD) device.
- 31 The game system of claim 28, wherein said first and second player-controlled characters are substantially the same character.
- 32 The game system of claim 28, further comprising:  
a secure authentication processor for authenticating said manually removable data storage disk to determine whether said data storage disk and said first game program are authentic.
- 33 The game system of claim 32, wherein said authentication processor decrypts encrypted data from said manually removable data storage disk to produce decrypted data and determines if said decrypted data has a predetermined relationship to authenticating data.

34 The game system of claim 28, wherein said data transmission link downloads said second game program from said first processor to said second processor.

35 The game system of claim 28, wherein said second processor comprises means for rendering polygons representing said plural body parts of said second player-controlled character.

- 36 A game system comprising: <sup>11</sup>
- (a) a video game apparatus having a data storage disk reader for reading a first game program from a data storage disk;
  - (b) first data storage locations in said video game apparatus for storing first picture data representing plural body parts of a first player-controlled character moving in a first portion of a simulated game world under control of a first manipulatable control device;
  - (c) a first processor in said video game apparatus for executing said first game program to generate said first picture data for display on a first display device and to generate game control data to specify a least one variable of a second player-controlled character;
  - (d) a graphics coprocessor in said video game apparatus cooperating with said first processor for texture mapping of said plural body parts of said first player-controlled character;
  - (d) a separately housed portable game system having a discrete display device and second data storage locations for storing second picture data representing plural body parts of said second player-controlled character moving in a second portion of said simulated game world;
  - (e) a second processor in said portable game system for executing a second game program that generates said second picture data in accordance with said game control data transferred from said first processor to said second processor; and

(f) a second manipulatable control device for selecting between said first and second portions of said simulated game world for display of the selected portion of the simulated game world on said discrete display device in said portable game system.

37 The game system of claim 36, wherein said second manipulatable control device controls enlargement and reduction of said selected portion of said simulated game world for display of greater and lesser detail.

38 The game system of claim 36, wherein said second portion of said simulated game world contains at least part of said first portion of said simulated game world.

39 The game system of claim 36, wherein said second portion of said simulated game world is separate from said first portion of said simulated game world.

40 The game system of claim 36, wherein said second portion of said simulated game world is a fractional part of said first portion of said simulated game world.

41 The game system of claim 36, wherein said first portion of said simulated game world is a fractional part of said second portion of said simulated game world.

- 42 The game system of claim 36, wherein said first processor comprises means for rendering polygons representing said plural body parts of said first player-controlled character.
- 43 The game system of claim 36, wherein said second processor comprises means for rendering polygons representing said plural body parts of said second player-controlled character.
- 44 The game system of claim 36, wherein said data transmission link is partly wireless.

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45 In a game system comprising a first housing containing a data storage disk reader and a first processor and a first data memory for storing first picture data representing plural body parts of a first player-controlled object in a simulated game world controlled by at least one manually operated control device, and a separately housed independently operable portable game system having a discrete display device and a second processor and a second data memory for storing second picture data representing plural body parts of a second player-controlled object in a simulated game world, a method of operating said game system comprising the steps of:

- (a) reading a first game program from a data storage disk in said data storage disk reader;
- (b) executing said first game program in said first processor to generate said first picture data for display on a first display device;
- (c) generating game control data in said first processor to specify at least one variable of at least one body part of said second player-controlled object;
- (d) transmitting said game control data from said first processor through a data transmission link to said second processor;
- (e) executing a second game program in said second processor to generate said second picture data in said second data memory in accordance with said variable specified in said transmitted game control data; and
- (f) displaying said second picture data on said discrete display device attached to said portable game system.

- 46 The method of claim 45, wherein said first and second player-controlled objects are substantially the same object.
- 47 The method of claim 45, wherein said first and second processors generate picture data representing different portions of the same simulated game world.
- 48 The method of claim 45, wherein said data transmission link downloads said second game program from said first processor to said second processor.
- 49 The method of claim 45, wherein said discrete display device is a liquid crystal display (LCD) device.
- 50 The method of claim 45, further comprising the steps of:
- (a) displaying a manually controllable indicator on a selected object displayed on said discrete display device;
  - (b) generating further second picture data representing said selected object moving in said game world under manual control.
- 51 The method of claim 45, further comprising the step of enlarging a portion of said second player-controlled object in said second picture data so as to display the object in greater detail on said discrete display device.



- 52 The method of claim 45, wherein said transmitting step transmits said game control data through a data transmission link that is partly wireless.
- 53 The method of claim 45, wherein said first processor comprises means for rendering polygons representing said plural body parts of said first player-controlled object.
- 54 The method of claim 45, wherein said second processor comprises means for rendering polygons representing said plural body parts of said second player-controlled object.

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55 In a game system comprising a separately housed independently operable portable game system having a discrete display device and a first processor and a first data memory for storing first picture data representing plural body parts of a first player-controlled object in a simulated game world controlled by at least one manually operated control device, and a separate second housing containing a data storage disk reader and a second processor and a second data memory for storing second picture data representing plural body parts of a second player-controlled object in a simulated game world, a method of operating said game system comprising the steps of:

- (a) executing a first game program in said first processor to generate said first picture data for display on said discrete display device in said portable game system;
- (b) generating game control data in said first processor to specify at least one variable of at least one body part of said second player-controlled object;
- (c) transmitting said game control data from said first processor through a data transmission link to said second processor;
- (d) reading a second game program from a data storage disk in said data storage disk reader;
- (e) executing said second game program in said second processor to generate said second picture data in accordance with said variable specified in said transmitted game control data; and
- (f) displaying said second picture data on a second display device.

- 56 The method of claim 55, wherein said first and second player-controlled objects are substantially the same object.
- 57 The method of claim 55, wherein said first and second processors generate picture data representing different portions of the same simulated game world.
- 58 The method of claim 55, wherein said data transmission link downloads said second game program from said first processor to said second processor.
- 59 The method of claim 55, wherein said discrete display device is a liquid crystal display (LCD) device.
- 60 The method of claim 55, further comprising the steps of:
- (a) displaying a manually controllable indicator on a selected object displayed on said discrete display device;
  - (b) generating further second picture data representing said selected object moving in said game world under manual control.
- 61 The method of claim 55, further comprising the step of enlarging a portion of said first player-controlled object in said first picture data so as to display the object in greater detail on said discrete display device.

- 62 The method of claim 55, wherein said transmitting step transmits said game control data through a data transmission link that is partly wireless.
- 63 The method of claim 55, wherein said first processor comprises means for rendering polygons representing said plural body parts of said first player-controlled object.
- 64 The method of claim 55, wherein said second processor comprises means for rendering polygons representing said plural body parts of said second player-controlled object.

- 65 A computer readable digital data storage disk for controlling the operation of a video game system, the video game system comprising:
- a video game apparatus having a data disk reader and a first processor with a cooperating polygon-rendering graphics coprocessor, and a separately housed independently operable portable game system having a second processor and a discrete display device, and a data transmission link between said video game apparatus and said portable game system, said digital data storage disk comprising:
- (a) a digital storage medium storing executable game program instructions comprising:
  - (b) instructions executed in said first processor for generating first picture data representing a first player-controlled character having plural body parts moving in a simulated game world and rendered by said coprocessor;
  - (c) instructions executed in said first processor for generating game control data to specify a least one variable of at least one of said body parts of a player-controlled character;
  - (d) instructions executed in said first processor for transferring said game control data through said data transmission link to said second processor to control execution of a second game program in said second processor to generate second picture data representing a second player-controlled character having plural body parts moving in a simulated game world displayed on said discrete display device in accordance with said variable specified in said transmitted game control data.

- 66 The digital data storage disk of claim 65, wherein said digital storage medium is pits pressed into the disk.
- 67 The digital data storage disk of claim 65, wherein said body parts comprise a human hand and wrist.
- 68 The digital data storage disk of claim 65, wherein said first and second player-controlled characters are substantially the same object.
- 69 The digital data storage disk of claim 65, wherein movements of said body parts are controlled by at least one manipulatable control device.
- 70 The digital data storage disk of claim 65, wherein said generated first and second picture data represent different portions of the same simulated game world.
- 71 The digital data storage disk of claim 65, wherein said variable represents at least one from the following group: a location of a character, a direction of movement of a character, orientation of a character, a size factor, an object identifier, an operation code, spatial coordinates, data to appear on a map, a word menu, picture menu, terrain identifier, texture identifier, polygon identifier, and other variables.

- 72 The digital data storage disk of claim 65, further comprising data representing at least one from the following group: words, numbers, symbols, faces, maps, static pictures, picture menus, and/or other data that is transmitted by said video game system to said portable game system for generation of data for display on said discrete display device.
- 73 The digital data storage disk of claim 65, further comprising instructions in said second game program that are downloaded from said video game apparatus through a data transmission link to said portable game system and executed in said second processor in said portable game system.
- 74 The digital data storage disk of claim 65, wherein said transferring of game control data is through a data transmission link that is partly wireless.
- 75 The digital data storage disk of claim 65, wherein said second processor comprises means for rendering polygons representing said plural body parts of said second player-controlled object.